CLAIMS

What is Claimed is:

      1. A mobile services network comprising:

            a mobile electronic device;

            a management server;

            an update package repository; and

            a generator with a partial predictive mapping preprocessor.

      2. The network according to claim 1 wherein the generator with a partial predictive mapping preprocessor generates update packages by comparing an old version and a new version of firmware.

      3. The network according to claim 2 wherein the update packages are populated into the update package repository.

      4. The network according to claim 2 wherein the generated update packages incorporate a shift region list.

      5. The network according to claim 1 wherein the management server and the update package repository are communicatively coupled.

      6. The network according to claim 1 wherein the generator with a partial predictive mapping preprocessor and the update package repository are communicatively coupled.

      7. The network according to claim 1 wherein the generator with a partial predictive mapping preprocessor is located at a location remote from the update package repository.

      8. The network according to claim 1 wherein the mobile electronic device comprises:

            a non-volatile memory;

            a random access memory; and

security services.

9. The network according to claim 8 wherein the non-volatile memory comprises:

an update agent;

a firmware and real-time operating system;

a download agent; and

a boot initialization.

10. The network according to claim 9 wherein the non-volatile memory further comprises an operating system layer.

11. The network according to claim 9 wherein the non-volatile memory further comprises an end-user-related data and content unit.

12. The network according to claim 9 wherein the mobile electronic device performs the following:

downloading an update package from the update package repository;

rebooting;

executing the boot initialization;

determining whether an update process is needed; and

invoking the update agent.

13. The network according to claim 12 wherein the mobile electronic device determines the need for an update process based on status information.

14. The network according to claim 12 wherein the mobile electronic device invokes the update agent to execute the update process if it is determined an update process is needed.

15. A method for generating an update package using an old image and a new image of a firmware in a mobile services network, the method comprising:

creating a module map between modules in the old image and modules in the new image of firmware;

creating a shift region list; and

generating an update package using information at least based on the shift region list.

16. The method according to claim 15 wherein the module map comprises module locations and sizes in the old image of firmware and the new image of firmware.

17. The method according to claim 15 wherein creating the shift region list comprises:

identifying shift points within each module of the firmware, wherein the shift points define shift regions;

creating a first shift region list;

modifying a first shift region list to include external shifts; and

creating a second shift region list.

18. The method according to claim 17 wherein the method further comprises consolidating adjacent shift regions having identical address adjustments.

19. The method according to claim 17 wherein the first shift region list comprises:

shift regions corresponding to modules in the old image of firmware;

sizes of the shift regions; and

adjustment values corresponding to the difference between a start location of a module in the old image of firmware and the start location of the same module in the new image of firmware.

20. The method according to claim 19 wherein modifying the first shift region list comprises:

finding modules that changed size from the old image of firmware to the new image of firmware;

adjusting address-based instructions in the old image of firmware using the adjustment value of the changed modules;

identifying areas where new content was inserted into a module;

defining the identified areas of new content as new shift regions;

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deleting the changed modules from the first shift list; and

inserting the defined shift regions into the first shift list.

21. The method according to claim 18 wherein adjacent shift regions are consolidated if modules remain unchanged in the new image from the old image.

22. The method according to claim 18 wherein the second shift region list is the result of consolidating shift regions in the modified first shift region list.